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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,963	07/21/2003	Ioana M. Rizoio	BI9068CON	6266

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EXAMINER

LEWIS, RALPH A

ART UNIT PAPER NUMBER

3732

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/624,963

Applicant(s)

RIZOIU ET AL.

Examiner

Ralph A. Lewis

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 104-112, 114-133, 135-157, 159-186, 191-194, 199-202 and 207-233 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 104-112, 114-133, 135-157, 159-186, 191-194, 199-202 and 207-233 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

### **Objection to the Declaration**

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

### **Rejections based on 35 U.S.C. 112, second paragraph**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 112, 120, 130, 141, 146, 154, 165 and 178 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 112 and 120 confusingly repeat limitations present in the parent claim.

In claims 130, 141, 154, 165 and 178, according to the specification LED's produce polychromatic light (page 5, lines 6 and 7), not monochromatic light as claimed.

In claim 146, lines 11 and 12, the "comprising and LED or a source of electromagnetic radiation" is confusing since an LED is a "source of electromagnetic radiation." The limitations are redundant and confusing.

In claim 154 it is unclear how the light emitting diode relates to the LED of parent claim 146.

### **Obvious-type Double Patenting Rejections**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 104-112, 114-133, 135-157, 159-186, 191-194, 199-202 and 207-233 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,616,451. Although the conflicting claims are not identical, they are not patentably distinct from each other because one of ordinary skill in the art would have found it an obvious matter of claim construction to more broadly claim the patented invention. For example pending claim 104 is a broader version of patented claim 1 of '451 with several limitations left out. Likewise pending independent claims 121, 146 and 170 are merely broader versions of earlier patented claims 7, 9 and 13 of patent 6,616,451. Merely claiming the same invention in broader terms is obvious.

### Rejections based on Prior Art

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 121, 125, 128, 129, 131, 133, 136, 139, 140, 142, 144, 146, 150, 152, 153, 155, 157, 160, 163, 164, 166, 168, 170, 171, 176, 177, 179, 181, 191, 192, 199, 200, 207, 208, 213, 215, 217, 222, 223, 226, 227, 230 and 231 are rejected under 35 U.S.C. 102(b) as being anticipated by Levy (US 5,306,143).

Levy discloses a toothbrush 4 having a cleaning surface 8 and a source on monochromatic electromagnetic radiation 16 (laser) that operates in the infrared range (see column 4, line 8)(i.e. substantially free of ultraviolet radiation). The Levy tooth brush is used with a dentifrice which may contain a “product which reacts with bacteria tarter or calculus in such a manner that radiation of an appropriate wave length will have the effect of removing the bacteria, tarter or calculus . . .” (column 3, line 65- column 4, line 5). In regard to claim 133, the Levy dentifrice gel (column 3, line 48) is inherently clear enough to pass light or it would not work.

Claims 104, 108, 109, 111, 112, 116, 117, 119, 120, 121, 125-131, 133, 136-142, 144, 146, 150-155, 157, 160-166, 168, 170-179, 181, 183, 184, 191, 192, 199, 200, 207, 208, 211, 213, 215, 217, 218, 219, 222, 223, 226, 227, 230 and 231 are rejected under 35 U.S.C. 102(a) as being anticipated by Polaert et al (WO 97/01298).

Relying on US Patent 5,894,620 as a translation of WO/97/01298, Polaret et al disclose a toothbrush with bristles having a source of polychromatic electromagnetic radiation 1 that emits light in the range of approximately 400-500 nanometers (column 3, line 48) (it is noted that LED's generally emit polychromatic light over a band of frequencies). The Polaert et al toothbrush is used with a dental gel containing a photosensitive agent (fluorescent substance) that is applied while brushing (note column 5, lines 45-46). In regard to the "transparency sufficient to transmit the electromagnetic radiation", the examiner takes the position that the limitation is inherent in the described operation of the Polaert et al device/system. It would be necessary for the paste or gel of Polaert et al device/system to have some degree of transparency for the light to react with the fluorescent material within the paste or gel. If the paste or gel was opaque then light would not be able to react with the fluorescent material contained within the paste or gel. In regard to the "anticaries" and "whitening compound" limitations the Polaert et al fluorescent material detects dental plaque which helps the user to remove the plaque thereby helping to prevent caries and making the teeth whiter. In regard to claims 128 and 130, Polaert et al disclose an embodiment Figure 2 where a filter 5a is used to make the light monochromatic.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 111, 119, 121, 125-131, 133, 136-142, 144, 146, 150-155, 157, 160-166, 168, 181, 184-186, 191-194, 199-202, 208-210, 213, 215, 218-230, 232 and 233 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polaert et al (WO 97/01298).

In regard to the "transparency sufficient to transmit the electromagnetic radiation" limitations, to the extent that the Polaert et al tooth paste/gel is not inherently of such sufficient transparency, one of ordinary skill in the art would have readily recognized that the Polaert et al tooth paste/gel should be of at least such sufficient transparency so that the device/system could operate as described by Polaert et al. In regard to "clear" limitations and to the extent that the Polaert et al dentifrice is not "clear," the maximizing of the efficiency of the light delivery to the photo chemical treating products by making the paste/gel clear would have been obvious to one of ordinary skill in the art.

In regard to claims 185, 193, 201, 209 the use of well known fluoride in dental compositions in order to help prevent tooth decay is old and well known, to have added

the common substance to the Polaert et al tooth paste/gel would have been obvious to the ordinarily skilled artisan in order to prevent tooth decay.

Claims 110, 118, 132, 143, 156, 167, 180 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polaert et al (WO 97/01298) in view of Feldman (US 5,160,194);

Feldman for a similar lighted tooth brush teaches directing the light around the bristles rather than through the bristles. To have merely provided the Polaert et al light around the bristles as taught in the prior art to be an alternative through the bristles would have been obvious to one of ordinary skill in the art.

Claims 122-124, 145, 147-149, 182, 213 and 215 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy (US 5,306,143) in view of Yarborough (US 5,645,428) and Cipolla (US 5,879,159).

Levy discloses the use of a light conducting toothbrush 5 with photosensitive chemicals contained in a special toothpaste or gel (column 3, line 48) for treating bacteria, tarter, calculus (column 3, line 65 to column 4, line 4). Levy fails to teach the use of a peroxide whitener. Yarborough (column 3, lines 14-26) and Cipolla (column 8, lines 22-37), however, both teach that teeth may be whitened by applying a photosensitive material (hydrogen peroxide) to a person's teeth and then activating it with light. To have selected hydrogen peroxide as the photosensitive chemical in Levy



Art Unit: 3732

so that the Levy device may be used for whitening a person's teeth as taught by Yarborough and Cipolla would have been obvious to one of ordinary skill in the art.

### **Allowable Subject Matter**

Claim 104 calling for polychromatic radiation between the wavelengths of 300-750 nanometers is interpreted as distinguishing the claimed the device from references calling for a laser as a source of electromagnetic radiation (e.g. 5,658,148 and 5,306,143) since lasers (and laser diodes) produce monochromatic light at a single wavelength. The limitation is also considered distinguishing from incandescent filament light bulb toothbrushes (e.g. 5,813,855 and 5,160,194) as such incandescent bulbs typically produce a significant amount of radiation in the infrared range above the limited range of 750 nanometers (note for example Gonser et al 5,003,434 Figure 7 - tungsten filament light source).

The prior art fails to disclose nor fairly teach a system comprised of a tooth brush that directs polychromatic light within a specified range of wavelengths and a dentifrice that includes a whitening agent (hydrogen peroxide) or photosensitive salt compound that reacts to the specified range of light dispensed by the toothbrush as is specifically set forth in the following claims. Accordingly, Claims 105-107, 114, 115, 135, 159 212, 214 and 216 would be allowable if rewritten in independent form to include all of the limitations of the claims from which they depend and upon the filing of a terminal disclaimer to over come the obvious type double patenting rejection above.


**Prior Art**

Prince (US 3,667,454), Friedman (US 4,661,070), Carr et al (US 4,779,173), Becker et al (US 4,952,143), Gonser et al (US 5,003,434), Maeda et al (US 5,030,090), Cornell (US 5,032,178), Neuberger et al (US 5,658,148), Cisio, Jr. (US 5,813,855), Altshuler (US 6,026,828), Neuberger et al (US 6,056,548), Azar et al (US 6,290,496), Weldemann (WO 92/06671) and Paula (DE 296 21 445) are made of record.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-4712. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Kevin Shaver, can be reached at (571) 272-4720.

R. Lewis  
September 29, 2005

  
Ralph A. Lewis  
Primary Examiner  
AK 3732